	Type	Hits	Search Text
1	BRS	7	"1178797"
2	BRS	33	"0056331"
3	BRS	7	stamos AND trudeau
4	BRS	211	impdh
5	BRS	138	impdh and (proliferation or viability)
6	BRS	641431	(impdh and (proliferation or viability)) resistant
7	BRS	93	(impdh and (proliferation or viability)) and resistant
8	BRS	92	((impdh and (proliferation or viability)) and resistant) and (greater or increase)
9	BRS	1	"6514979"
10	BRS	211	impdh
11	BRS	131	impdh and (mutant or mutation or mutagenized)
12	BRS	129	(impdh and (mutant or mutation or mutagenized)) and (inhibiting or inhibitor or inhibited)
13	BRS	102	((impdh and (mutant or mutation or mutagenized)) and (inhibiting or inhibitor or inhibited)) and mammalian
14	BRS	102	(((impdh and (mutant or mutation or mutagenized)) and (inhibiting or inhibitor or inhibited)) and mammalian) and (proliferation or viability or cell)
15	BRS	0	((((impdh and (mutant or mutation or mutagenized)) and (inhibiting or inhibitor or inhibited)) and mammalian) and (proliferation or viability or cell)) and inosine and monophophate and dehydrogenase
16	BRS	95	((((impdh and (mutant or mutation or mutagenized)) and (inhibiting or inhibitor or inhibited)) and mammalian) and (proliferation or viability or cell)) and inosine and monophosphate and dehydrogenase
17	BRS	64084	proliferation or proliferative
18	BRS	65370	proliferation or proliferative or antiproliferative

	Type	Hits	Search Text
19	BRS	50590	(proliferation or proliferative or antiproliferative) and cell
20	BRS	6	"5,536,747"
21	BRS	643	"16" and (antiproliferative or proliferation or proliferative)
22	BRS	6	"5,536,747" and (antiproliferative or proliferation or proliferative)
23	BRS	137	proliferation and impdh
24	BRS	19	proliferation near4 impdh
25	BRS	2478	cell near2 proliferation near2 assay
26	BRS	23	human near2 cell near2 proliferation near2 assay
27	BRS	48875	eukaryotic or eukaryotes
28	BRS	81186	proliferation
29	BRS	18405	(eukaryotic or eukaryotes) and proliferation
30	BRS	15515	((eukaryotic or eukaryotes) and proliferation) and (mutant or mutagenized or altered)
31	BRS	15514	(((eukaryotic or eukaryotes) and proliferation) and (mutant or mutagenized or altered)) and cell
32	BRS	13808	((((eukaryotic or eukaryotes) and proliferation) and (mutant or mutagenized or altered)) and cell) and inhibit
33	BRS	424	impdh
34	BRS	1	impdh and inhibtor
35	BRS	413	impdh and inhibitor
36	BRS	224	((impdh and inhibitor) and mutant) and proliferation
37	BRS	264	(impdh and inhibitor) and mutant
38	BRS	6217	mutant near10 resistant
39	BRS	297	(mutant near10 resistant) near10 method
40	BRS	10303	proliferation near10 assay
41	BRS	5868	(proliferation near10 assay) and mutant
42	BRS	5456	((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)
43	BRS	3857	(((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant
44	BRS	4	"5306624"

	Type	Hits	Search Text
45	BRS	3857	((((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant) and cell
46	BRS	3383	(((((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant) and cell) and colonies
47	BRS	3253	((((((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant) and cell) and colonies) and (human near2 cell)
48	BRS	3226	(((((((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant) and cell) and colonies) and (human near2 cell)) and enzyme
49	BRS	1850	(((((((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant) and cell) and colonies) and (human near2 cell)) and enzyme) and (method near10 proliferation)
50	BRS	1844	((((((((proliferation near10 assay) and mutant) and (eukaryotic or mammalian)) and resistant) and cell) and colonies) and (human near2 cell)) and enzyme) and (method near10 proliferation)) and (inhibit or inhibitor)
51	BRS	4	"5306624"
52	BRS	10	"6187732"
53	BRS	2	"6114296"
54	BRS	468	impdh
55	BRS	352	impdh and (mutant or modified)
56	BRS	432	impdh and (mutant or modified or new)
57	BRS	348	(impdh and (mutant or modified or new)) and ("190" or "191" or alanine or glycine)
58	BRS	1135665	l1near10 (mutant or modified)
59	BRS	9	impdh near10 (mutant or modified)
60	BRS	273	(impdh and (mutant or modified)) and "190"
61	BRS	54013	gene near1 therapy
62	BRS	19339	selection near1 system

	Type	Hits	Search Text
63	BRS	4	S157 near20 S158
64	BRS	3198	S157 and S158
65	BRS	3156	S160 and marker
66	BRS	984	S160 and marker
67	BRS	984	S162 and cell

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#19	Search **impdh therapy** Limits: **Publication Date to 2001**	13:50:32	46
#18	Search **impdh gene therapy** Limits: **Publication Date to 2001**	13:50:21	0
#15	**Related Articles** for **PubMed** (Select **10390601**)	13:47:37	373
#7	Search **impdh resistance** Limits: **Publication Date to 2001**	13:40:59	15
#5	Search **impdh mutant** Field: **All Fields,** Limits: **Publication Date to 2001**	13:39:42	11
#4	Search **impdh mutant**	13:39:28	17
#2	Search **lightfoot acid dual point**	13:27:56	1
#1	Search **lightfoot acid**	13:27:44	63

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1: Biotechniques. 2003 Jun;34(6):1220-2, 1224, 1226 passim.

Related Articles, Links

Bacterial IMPDH gene used for the selection of mammalian cell transfectants.

Baccam M, Huberman E.

Stable cell transfection is used for the expression of exogenous genes or cDNAs in eukaryotic cells. Selection of these transfectants requires a dominant selectable marker. A variety of such markers has been identified and is currently in use. However, many of these are not suitable for all cell types or require unique conditions. Here we describe a simple and versatile dominant selectable marker that involves bacterial IMP dehydrogenase (IMPDH), an enzyme essential for the replication of mammalian and bacterial cells. Although IMPDH is evolutionarily conserved, the bacterial enzyme is orders of magnitude more resistant to the toxic effect of the drug mycophenolic acid, which is an IMPDH inhibitor. We have demonstrated that transfection of human, monkey or Chinese hamster cell lines with an expression vector containing bacterial IMPDH and mycophenolic acid treatment resulted in the selection of colonies with a strikingly increased resistance to mycophenolic acid toxicity. Analysis of cells derived from these colonies indicated that the acquisition of this resistance was associated with bacterial IMPDH protein expression. As a proof of principle, we showed that mammalian cell transfection with a bicistronic IMPDH/GFP expression vector and mycophenolic acid treatment can be used to successfully select transfectants that express the fluorescent protein. These results indicate that bacterial IMPDH is a practical dominant selectable marker that can be used for the selection of transfectants that express exogenous genes or cDNAs in mammalian cells.

PMID: 12813890 [PubMed - indexed for MEDLINE]